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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/783,729	02/13/2001	Stanislaw Czaja	LSI-001-PAP	2916

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EXAMINER

NG, CHRISTINE Y

ART UNIT	PAPER NUMBER
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2663

DATE MAILED: 07/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/783,729

Applicant(s)

CZAJA ET AL.

Examiner

Christine Ng

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 10-13, 21, 22, 26 and 27 is/are rejected.
- 7) ☒ Claim(s) 5-9, 14-20 and 23-25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 February 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 5 and 6 are objected to because of the following informalities:

In claim 5 line 3 and claim 6 line 2, "ISHO" should be written out as

Intergenerational Soft Handoff (Page 9, line 17).

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 11, 12, 21, 22, 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,708,041 to Butovitsch et al in view of U.S. Patent No. 6,594,242 to Kransmo.

Referring to claims 1, 26 and 27, Butovitsch et al disclose in Figure 3 a method of controlling forward link power during soft handoff in a wireless communication system, wherein the wireless communication system includes a plurality of base stations (BS1, BS2) in communication with at least one mobile station (MS), wherein the base stations (BS1, BS2) transmit information to the at least one mobile station (MS) via a forward link, and wherein the base stations (BS1, BS2) receive information from the at least one mobile station (MS) via a reverse link, and wherein each base station (BS1, BS2) is in communication with a mobile station controller (RNC), and wherein a selected

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mobile station (MS) is handed off from a serving communication system (BS1) to a target communication system (BS2). Refer to Column 6, line 59 to Column 7, line 67.

The method (Figure 4) comprises the steps of:

a) Determining (Step 100) a forward link transmit power (P_1, \dots, P_n) of a serving communication system (serving base stations BS_1, \dots, BS_n). The RNC orders each of the serving base stations BS_1, BS_2, \dots, BS_n to measure their transmit powers P_1, P_2, \dots, P_n and to report the measured results to the RNC. Refer to Column 8, lines 51-55.

b) Calculating (Step 104) a forward link transmit power (P_{new}) of a target system (target base station BS_{new}) based upon the forward link transmit power (P_1, \dots, P_n) of the serving communication system (serving base stations BS_1, \dots, BS_n) determined during step (a). From the measured results, the RNC determines the initial transmit power P_{new} for the target base station BS_{new} . Refer to Column 8, lines 59-62. The serving and target base station should be controlled to transmit with a "desired, pre-established offset". Refer to Column 7, lines 52-59 and Column 8, lines 1-4.

c) Controlling (Step 106) the forward link transmit power (P_{new}) of the target system (target base station BS_{new}) based upon the forward link transmit power (P_{new}) calculated during step (b). The target base station BS_{new} then transmits at the initial power setting P_{new} . Refer to Column 9, lines 1-3.

Butovitsch et al do not disclose that the method is performed during intergenerational soft handoff and that the serving and target systems comprise different generational CDMA communication devices.

Kransmo discloses a method of handoff between a 3G communication system and a 2G communication system. As 3G networks are implemented, service coverage may be evolving from 2G to 3G systems. However, "3G coverage may be limited, with a possibility of drop-outs due to lack of coverage in certain geographical locations". To prevent this, wireless mobile terminals need to be able to operate in both 2G and 3G systems, so that a handover from a 3G to a 2G network is possible "when a 3G network becomes unavailable or is not accessible in a mobile user's physical location". Refer to Column 1, lines 30-48. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the method is performed during intergenerational soft handoff and that the serving and target systems comprise different generational CDMA communication devices; the motivation being that as 3G systems develop, mobile terminals need to be able to handoff between older 2G and newer 3G systems; thereby preventing loss of information when a mobile user travels between 2G and 3G systems.

Referring to claim 2, Butovitsch et al discloses in Figure 3 that the serving communication system comprises a serving base station (BS1). Refer to Column 7, lines 41-59.

Referring to claim 3, Butovitsch et al discloses in Figure 3 that the target communication system comprises a target base station (BS2). Refer to Column 7, lines 41-59.

Referring to claim 4, Butovitsch et al discloses in Figure 4 that step (a) comprises determining (Step 100) an actual transmit power of the serving system. The RNC

orders each of the serving base stations BS_1, BS_2, \dots, BS_n to measure their transmit powers P_1, P_2, \dots, P_n , which may be E_b/I_0 values. Refer to Column 8, lines 51-55.

Referring to claim 11, Butovitsch et al and Kransmo disclose that the forward link transmit power is controlled during an intergenerational soft handoff procedure. Refer to the rejection of claim 1. Butovitsch et al also disclose that the handoff procedure comprises a soft handoff. The invention of Butovitsch et al is performed in a soft handoff scenario. Refer to Column 5, lines 22-27.

Referring to claim 12, Butovitsch et al and Kransmo disclose that the forward link transmit power is controlled during an intergenerational soft handoff procedure. Refer to the rejection of claim 1. Butovitsch et al also disclose that the handoff procedure comprises a softer handoff. The invention of Butovitsch et al is performed in a soft handoff scenario, but "may be applied to other handover situations such as softer diversity handover". Refer to Column 5, lines 22-27.

Referring to claim 21, Butovitsch et al disclose in Figure 5 that step (b) of calculating a forward link transmit power (P_{new}) of a target system (BS_{new}) includes the substeps of:

a) Demodulating (Step 110) a reverse traffic channel of the serving system (serving base stations BS_1, \dots, BS_n). The mobile station "measures the power level received from each base station and sends that received power to the RNC" (Column 9, lines 14-15).

b) Calculating (Step 112) the forward link transmit power (P_{new}) of a target system (BS_{new}) based upon information obtained from the reverse traffic channel of the

serving system (serving base stations BS_1, \dots, BS_n). The RNC then determines a new transmit power P_{new} for the new base station BS_{new} . Refer to Column 9, lines 15-17. Refer to the rejection of claim 1.

Butovitsch et al do not disclose that the serving system comprises a 2G CDMA system. Refer to the rejection of claim 1.

Referring to claim 22, Butovitsch et al disclose that sub-step (a) comprises determining a power control command value of the 2G CDMA serving system. When adjusting downlink transmissions, the mobile station measures the transmit power level received from the base station and determines whether the measured value is higher than a reference value. The mobile station then sends transmit power control bits to the base station to decrease or increase the transmit power accordingly. Refer to Column 3, lines 1-16.

4. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,708,041 to Butovitsch et al in view of U.S. Patent No. 6,594,242 to Kransmo, and in further view of U.S. Publication No. 2002/001749 to Hunzinger.

Butovitsch et al and Kransmo do not disclose that the method further includes the step (d) of performing a reverse link hard handoff procedure.

Hunzinger disclose in Figure 3 a method in which the mobile station, communicating with two base stations of different generations, performs a hard handoff on the reverse link. When the mobile station recognizes that the target station's E_c/I_o parameter exceeds a threshold, it sends an indication on the reverse link to the base station. The base station then sends a command to complete the hard handoff and the

mobile station completes the hard-handoff autonomously. Refer to Sections 0004-0005 and 0031-0033. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the step (d) of performing a reverse link hard handoff procedure; the motivation being that base stations of different generations are incompatible so a mobile station must terminate communication with a first base station of one generation before beginning communication with a second base station of another generation.

5. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,708,041 to Butovitsch et al in view of U.S. Patent No. 6,594,242 to Kransmo, and in further view of U.S. Patent No. 6,606,485 to Chen et al.

Butovitsch et al and Kransmo disclose that the forward link transmit power is controlled during an intergenerational soft handoff procedure. Refer to the rejection of claim 1. Butovitsch et al and Kransmo do not disclose that the handoff procedure comprises a soft-softer handoff.

Chen et al disclose that a soft-softer handoff is a combination of a soft handoff and a softer handoff. A soft-softer handoff occurs when a mobile station travels from one base station to another base station and between different sectors of the same base station, all of which may be operating on different frequencies. Refer to Column 6, lines 52-61. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the handoff procedure comprises a soft-softer handoff; the motivation being that soft-softer handoff allows a mobile station to travel across different base stations and across sectors of the same base station and to

establish connection with a target base station or sector before disconnecting with the serving base station or sector, thereby preventing corrupting communication and loss of information.

Allowable Subject Matter

6. Claims 5-9, 14-20 and 23-25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

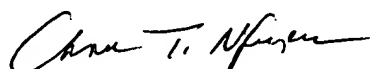
Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine Ng whose telephone number is (703) 305-8395. The examiner can normally be reached on M-F; 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nguyen Chau can be reached on (703) 308-5340. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C. Ng ^{ew}
July 9, 2004



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